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Diagnosing lymphedema

A diagnosis of lymphedema is generally made following a clinical assessment and physical examination. The earlier it is diagnosed, the more effectively it can be treated. A precise and early diagnosis is therefore crucial.

GPs in the front line in the lymphedema care pathway… to refer their patient to a specialized team

It is the general practitioner's responsibility to make a preliminary diagnosis of edema after examining and questioning the patient. The patient is then referred to a specialist, an angiologist in this case. This vascular doctor, specialized in both blood and lymphatic vessels, will make a more precise diagnosis and will confirm the presence of "true" lymphedema or edema with a different cause (cardiac, renal, hepatic or venous).

Focus on diagnosing lymphedema

In addition to general questioning, in order to assess how the condition initially developed and its course, clinical examination will make it possible to determine the characteristics of the edema and make a differential diagnosis of a lymphatic origin rather than any other cause (such as lipedema).

Lymphedema can develop following cancer of the breast, pelvic zone or bladder, etc. It is estimated that one in five women treated for breast cancer will go on to develop lymphedema within 6 months following surgery. In this case, the diagnosis is made more quickly and easily and is obvious.

The circumference of the limb is then measured at different levels in order to assess the volume of the lymphedema, and the condition of the skin is also assessed.

Several additional investigations may be performed. The first is a Doppler ultrasound to eliminate any venous disease. This investigation enables differential diagnosis of edema by detecting any deep vein thrombosis or popliteal cyst (Baker's cyst) and location of the subcutaneous topography of the edema. It also enables a non-invasive and precise assessment of the deep venous network, with demonstration of deep reflux.

CT scans are used to make a precise assessment of lymph nodes and analyse the topography of edema. They are indicated in the event of any suspicious worsening of lymphedema in order to exclude any potential malignant degeneration.

Lymphoscintigraphy may also be performed. This involves injecting a radioactive product into the tissue under the skin at the feet. The speed of circulation or stopping of the radioactive product in a specific region may provide information on how the lymphatic system is functioning.

Four stages of lymphedema

There are four stages of lymphedema:

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- Stage 0: this is the "latent" or "subclinical" stage. Despite deficient circulation of lymph fluid, swelling is not or barely visible. While the disease is asymptomatic in the majority of cases, some patients may experience heaviness of the affected limb, slight tingling and fatigue. This stage can last several months or even years before the edema develops.

- Stage I: the edema is spontaneously reversible, i.e. it regresses rapidly when the affected limb is elevated. When pressed with the finger, a persistent indentation may be left, but this is not systematically the case at this stage. This clinical examination is known as "pitting". If there is an indentation, the exam is positive.
  At stage I, the excess limb volume is less than 20%.

- Stage II: the edema is not spontaneously reversible, i.e., it regresses but not completely when the affected limb is elevated. There are changes in the subcutaneous tissues, which become thickened. Skin folds develop, along with fibrosis and fat deposition on the affected limb.

  - In the event of lymphedema of the lower limb, if the foot is affected, the "Stemmer's sign" is one of the ways of diagnosing the condition. If the skin on the back of the second toe is thickened and impossible to lift when pinched, the examination is considered to be positive. This is generally the case at stage II.

  - At this stage, pitting remains obvious. The excess limb volume is between 20 and 40%. In addition, the risk of infection is increased and promotes stage III disease.

- Stage III: this is the stage known as "elephantiasis". The edema is very marked, permanent and irreversible. The limb is highly dysmorphic and presents skin folds. The skin on the limb is firm or even hard and may suffer from advanced dermatological complications (thickening, papilloma, etc.) or small outgrowths (papillomatosis, blisters, etc.). The edema no longer maintains a finger indentation: pitting is no longer visible.
  At this stage, the excess limb volume is more than 40%.

Additional investigations

Additional investigations are sometimes useful to confirm the diagnosis or to eliminate any other diseases causing edema. In some cases, MRI can be used to differentiate between lipedema and lymphedema.

Other diseases presenting edema may be confused with lymphedema. A venous Doppler ultrasound of the lower limbs can be used to eliminate venous diseases potentially causing or exacerbating edema. Similarly, an abdominal and pelvic CT scan is often prescribed.

If you have any questions, ask your doctor for advice.

Documentary sources

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